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BAIRD AND MCGUIRE SUPERFUND SITE
A FACT SHEET FOR PHYSICIANS

BACKGROUND / INTRODUCTION

The Massachusetts Department of Public Health recently completed a health assessment for the Baird and McGuire hazardous waste site located on the Holbrook – Randolph line. The Baird and McGuire Chemical facility operated from 1912 to 1983. During it's operation the facility released numerous hazardous substances into surrounding soils, groundwater, surface water and associated sediments. Organochloride insecticides, the herbicide 2,4–dichlorophenoxyacetic acid (2,4D), arsenic and benzene were among the numerous established or suspected human carcinogens that were detected in the wellfields. In addition, other contaminants that were known to alter immune function were detected in groundwater. It is suspected that the health of those individuals, who were exposed to contaminants associated with the site, may have been adversely impacted. The most direct route of exposure to these contaminants, in all likelihood, was via ingestion of groundwater from the South Street municipal wells and via dermal contact by children playing at the site as well as the Baird and McGuire workers. The wellfield was decommissioned in 1982 and the site was fenced in the mid 1980's. Exposure via these pathways has ceased.

Further site cleanup plans include remediation of contaminated soils. Because arsenic is not destroyed during remediation, particulates may contain high levels of arsenic. Engineering controls will reduce the amount of particulates released to the atmosphere. Particulates can be a small size, thus can evade nasal filtering and be drawn into the lungs.

This fact sheet will serve to alert local physicians to the health concerns that may still exist.

HEALTH IMPLICATIONS

Numerous studies have suggested that a positive relationship exists between frequency of exposure to 2,4D and the risk of developing non–Hodgkin's lymphoma(NHL). Analysis of cancer incidence data revealed a statistically significant elevation of incidence rates for NHL experienced by females who resided within census tracts proximal to the site and were served by the contaminated wells.

These statistics are more peculiar when it is considered that on a national level, the disease is more prevalent in males than in females.

Although engineering controls will reduce particle emission, a future health concern exists because inhalation of arsenic has a multiplicative effect on the development of lung cancer by cigarette smokers. Additional concerns exist because lung cancer incidence is already elevated to statistical significance for both towns of Holbrook and Randolph. The Massachusetts Department of Public Health has recommended that a community smoking cessation program be conducted, and will provide guidance to the local boards of health on how to develop such a program. The Agency for Toxic Substances and Disease Registry will provide resource information.

NON–HODGKIN'S LYMPHOMA INCIDENCE

GOVERNMENT DOCUMENTS COLLECTION
SEP 13 1991
University of Massachusetts
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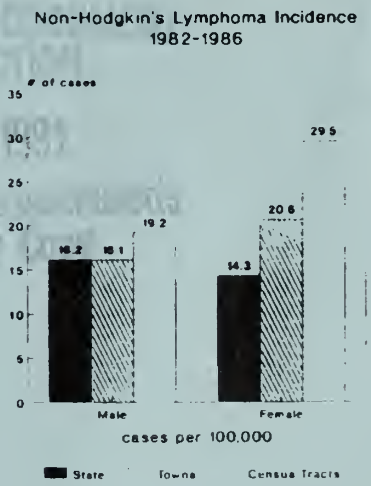
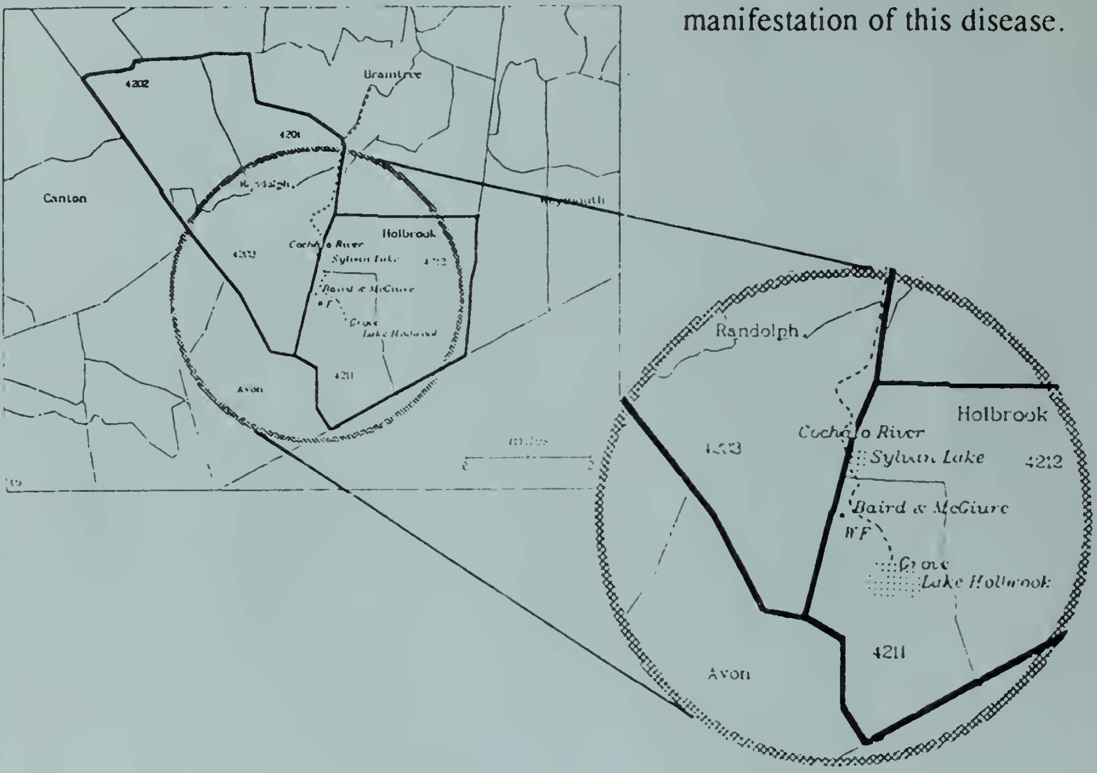


The towns of Holbrook and Randolph revealed statistically significant elevations in non–Hodgkin's lymphoma (NHL) incidence among females and in the town of Randolph among males and females combined. NHL incidence was statistically significantly elevated among females in the census tracts (CT) 4203, 4211 and especially both census tracts combines. Significant elevations were not observed among either sex in the remaining one Holbrook and two Randolph census tracts.

CLINICAL MARKERS FOR DISEASE

Scientific researchers have identified a genetic marker that is prevalant in patients with a specific type of non–Hodgkin's Lymphoma. Investigators at the M. D. P. H. are currently exploring the possibility of using this marker as an early disease indicator. It may be possible to identify individuals in the early stages of developing non–Hodgkin's Lymphoma who have not yet exhibited clinical manifestation of this disease.



HOW YOU CAN LEARN MORE ABOUT WHO'S AT RISK OF DEVELOPING NHL

In general, residents that reside in CT 4211 in Holbrook and CT 4203 in Randolph during the period prior to the closing of the South Street Wells (1982) are considered to be at the greatest potential risk. Other small sized populations at potential risk are the people who played at the site as children and the workers at the former Baird and McGuire facility.

Staff from the Division of Environmental Health Assessment can be reached at (617) 727–7170 for confirmation of identification of potential risk.

This fact sheet has been prepared by the
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